

REMARKS/ARGUMENTS

Favorable reconsideration of this application, in light of the present amendments and following discussion, is respectfully requested.

Claims 13-21, 23-25, and 28-34 are pending. Claims 26 and 27 are canceled by the present amendment. Claims 1-12 and 22 were canceled previously. Claims 13 and 23 are amended to recite the features of now-canceled Claims 26 and 27, respectively. Claim 23 is withdrawn. Support for the amendments to Claims 13 and 23 can be found in Fig. 1 and now-canceled Claims 26-27, for example.¹ Support for newly added Claims 28-34 can be found in Figs. 5a and 5b, for example. No new matter is added.

In the outstanding Office Action, the specification was objected to as not providing proper antecedent basis for the feature of an axis of a cylindrical member intersecting a part of a true circle or oval. Claim 13 was rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement and as failing to comply with the written description requirement. Claims 13-21 and 24-27 were rejected under 35 U.S.C. § 112, second paragraph, as indefinite. Claims 13, 14, 16-21, and 24-27 were rejected under 35 U.S.C. § 103(a) as obvious over Ohnishi et al. (U.S. Patent No. 5,934,575, herein "Ohnishi") in view of the Background Art described in the present application. Claim 15 was rejected under 35 U.S.C. § 103(a) as obvious over Ohnishi, in view of Background Art, and (Japanese Publication No. JP 2000-140675, herein "JP '675").

At the outset, Applicants note with appreciation the courtesy of a personal interview granted by Primary Examiner Faye Francis. In accordance with MPEP § 713.04, the substance of the personal interview, based in part on a follow-up voicemail Primary Examiner left Applicants' representative on April 28, 2010, is substantially summarized below.

¹ Please see Fig. 1 as submitted on December 14, 2009, in which the axis (Z) is depicted coming directly out of the page in the cross sectional view of the example of the impact member (2).

During the personal interview, Applicants representative discussed a proposed draft amended claim set forwarded to Primary Francis in advance of the personal interview. In the voicemail left by Primary Examiner Francis on April 28, 2010, Primary Examiner Francis cautioned that the language "of the cylindrical member" should not be deleted from Claim 13 as set forth in the draft amended claim set. Accordingly, this language is not deleted from Claim 13 in the present amendment. Aside from this change, Claim 34 is newly added. Primary Examiner Francis also noted, during the interview, that some of the claims appear to recite structure rather than method steps. Applicants' representative noted that this format is not improper inasmuch as the dependent claims further narrow the claim from which they depend, as is required. Therefore, the dependent claims need not explicitly recite action verbs in order to be considered.

In the voicemail left by Primary Examiner Francis, Examiner Francis indicated the present amendments to the claims appear to overcome the applied references, but a further search would be performed.

Regarding the objection to the specification as not providing antecedent basis for the feature of an axis of a cylindrical member that intersects a part of a true circle or oval, this feature is deleted from Claim 13. Accordingly, Applicants respectfully submit that the objection to the specification is overcome.

Regarding the rejection of Claim 13 as failing to comply with the enablement and written description requirements, as noted above, Claim 13 is amended to delete reference to an axis intersecting a part of a true circle or oval. Accordingly, Applicants respectfully submit that the rejections for lack of enablement and failing to comply with the written description requirement are overcome.

Regarding the rejection of Claim 13 as indefinite for reciting the above-noted feature, as noted above, the feature discussed on page 3 of the outstanding Office Action and the

rejection of Claim 13 as indefinite has been deleted. Accordingly, Applicants respectfully submit that the rejection of Claim 13 as indefinite is overcome.

Regarding the rejection of Claims 13, 14, 16-21, and 24-27 as obvious over Ohnishi in view of the Background Art and the rejection of Claim 15 as obvious over Ohnishi in view of the Background Art and JP '675, those rejections are respectfully traversed by the present response.

Amended independent Claim 13 recites in part:

wherein the impact member includes a cylindrical member of which bottom is in a form of a part of a true circle or an oval, wherein the cylindrical member comprises an impact side on a curved side and the impact side faces toward an inlet of the venturi nozzle,

wherein an axis of the cylindrical member is disposed at a non-zero angle relative to a longitudinal axis of the venturi nozzle, and

wherein the axis is parallel to the impact side facing toward the inlet of the venturi nozzle.

Accordingly, Claim 13 recites that **the axis is parallel to the impact side facing toward the inlet of the venturi nozzle**. The axis is disposed at a non-zero angle relative to a longitudinal axis of the venturi nozzle.

In contrast, any axis described in Ohnishi for its impact face (18) and projected central area (17) is disposed perfectly parallel to the longitudinal axis of the venturi nozzle and **not parallel to the impact face**.

Furthermore, the advisory action dated January 5, 2010, included an annotated figure from Ohnishi in which the Examiner had drawn an arbitrary line horizontally across Fig. 2 of Ohnishi to indicate that Ohnishi could include an axis disposed at a non-zero angle relative to the longitudinal axis of the venturi. However, assuming arguendo that the horizontal line drawn on the annotated copy of Fig. 2 of Ohnishi provided by the Examiner could be considered an axis, this arbitrarily drawn line is not parallel to an impact surface and disposed at a non-zero angle relative to the longitudinal axis of the venturi as recited in amended

independent Claim 13. Furthermore, the arbitrary line drawn by the Examiner is not an "axis" as a person of ordinary skill in the art would understand the term.

Accordingly, neither the vertically drawn line on Fig. 2 provided in the January 5, 2010, Advisory Action nor the horizontal line drawn by the Examiner in the Advisory Action qualifies as the axis recited in amended independent Claim 13 inasmuch as neither of these lines is disposed parallel to an impact surface of an impact member. Furthermore, if the Examiner were to draw yet another arbitrary line parallel to a curved surface of the impact face (18) or projected central area (17) described in Onhishi, such a line would not qualify as an "axis" as a person of ordinary skill in the art would understand the term "axis."

As the outstanding Office Action has disregarded the features relating to an axis discussed in the previous response as a matter of mere "design choice," Applicants note the following.

MPEP § 2144.04 states:

C. Rearrangement of Parts

In *re Japikse*, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950) (Claims to a hydraulic power press which read on the prior art except with regard to the position of the starting switch were held unpatentable because shifting the position of the starting switch would not **have modified the operation of the device**.); In *re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975) (the particular placement of a contact in a conductivity measuring device was held to be an obvious matter of **design choice**). However, "The mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims on appeal is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without the benefit of appellant's specification, to make the necessary changes in the reference device." *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984).

Emphasis added.

Thus, because shifting the position of the starting switch in *In re Japikse* did not **affect the operation of the device**, the CCPA held that this difference did not patentably distinguish over the prior art.

Applicants respectfully submit that the features recited in Claim 13 relating to the orientation of the axis carry patentable weight inasmuch as these features affect the process recited in Claim 13. Specifically, the arrangement set forth in amended Claim 13 reduces generation of unnecessary fine powder due to a secondary impact of the toner with the impact member. The specification states:

In the present invention, each of r_1 and r_2 is a numerical value that is not "0." When the 3 points forming a circle are present on a straight line, the radius of the circle is infinite (∞). When the impact side is a planar surface, the r_2/r_1 ratio satisfies $\infty/\infty = 1$. **In addition, when a line connecting the 3 points forming the circle R_2 on the impact side is a curve, and a line connecting the 3 points forming the circle R_1 on the impact side is a straight line, the r_2/r_1 ratio satisfies finite numerical value/ $\infty = 0$.**

Specifically, the closer the r_2/r_1 ratio to 1, the more it is shown that the impact side is in a symmetric form such as a spherical surface, a conical surface, a flat plate, or the like. On the other hand, the closer the r_2/r_1 ratio to 0, it is shown that the impact side is curved, and when the r_2/r_1 ratio is equal to 0, it is shown that the impact side is a side which is curved only in one direction of a flat plate. Circles R_1 and R_2 , and a radius r_2 are shown in FIG. 3 in a case where the impact side is on a semi-cylindrical member containing a part of a true circle on its bottom side. In this case, the radius r_1 is infinite (∞).

The r_2/r_1 ratio is preferably 0.1 or less, more preferably 0.05 or less, even more preferably 0.001 or less, and especially preferably 0.

In a conventional process, a fine powder having an even smaller size than the desired particle size, for example, a size of 3 μm or less, is generated in a large amount, thereby lowering the production efficiency of the toner. **In the present invention, by using an impact member having an impact side having a specified shape as described above, the generation of fine powder is markedly reduced.** The smaller the degree of curving and the more the curve approximates a straight line, the more linear the impact point of a product to be pulverized; the larger the degree of curving, the smaller the turbulence due to back pressure, so that the pulverized fine powder is efficiently carried to an outlet. Therefore, by using the impact member of the present invention having an impact side combinably having both curves, it is presumed that the primary impact is a main one, so that the generation of unnecessary fine powder due to the secondary impact is suppressed.²

Thus, the arrangement set forth in amended independent Claim 13 has an effect on the process, e.g., marked reduction of generation of fine powder. Therefore, these features **must be given patentable weight** by the Examiner.

² Original specification, page 13, line 23-page 15, line 2.

As further discussed in the interview, the Background Art section of the present application does not discuss any particular orientation of a conical or spherical shape discussed. Accordingly, the Background Art section of the present application fails to remedy the deficiencies discussed above regarding Ohnishi.

As discussed in the interview, JP '675 fails to remedy the deficiencies discussed above regarding Ohnishi and the Background Art inasmuch as, like Ohnishi and JP'675 describes a **conical** member with an axis parallel to the axis of the nozzle. Accordingly, no reasonable combination of the cited references would include all of the features recited in amended independent Claim 13 or any of the claims depending therefrom.

Applicants wish to make the following additional remarks regarding **dependent Claim 25**, which recites that the axis of the cylindrical member is horizontal. In other words, the axis of the cylindrical member is level.

As discussed in the comparison in the specification regarding Figs. 5a and 5b, the orientation of the axis of the cylindrical member recited in dependent Claim 25 provides a specific benefit, and the cited references are silent regarding such an orientation. Accordingly, Applicants respectfully submit that dependent Claim 25 further patentably distinguishes over any proper combination of the cited references.

Accordingly, Claim 13 and all the claims depending therefrom patentably distinguish over an proper combination of the cited references for at least the reasons discussed above.

As Claim 23 recites substantially similar features to those recited in Claim 13, Applicants respectfully submit that Claim 23 should be rejoined in the event Claim 13 is found allowable.

Newly added independent Claim 28 recites, in part:

wherein the cylindrical member comprises a curved impact side facing toward an inlet of the venturi nozzle,
and
wherein a cross-sectional area of the curved impact side facing toward the inlet of the venturi nozzle is constant.

Thus, **a cross-sectional area** of the curved impact side facing toward the inlet of the venturi nozzle is **constant**.

In contrast, both of Ohnishi and JP '675 require **conical** impact members, and therefore, the cross-section of any **impact member facing the inlet** of the venturi nozzle is not constant. Therefore, newly added independent Claim 28 and the claims depending therefrom patentably distinguish over any proper combination of the cited references for at least the reasons discussed above.

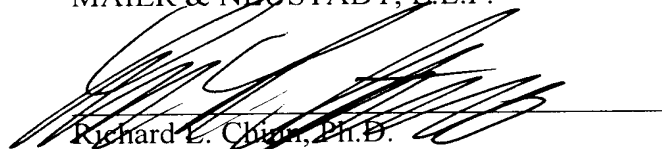
Regarding the Examiner's comments during the personal interview and on page 6 of the outstanding Office Action indicating that the specification is confusing with respect to R1 depicted as a straight line and not a circle or radius, Applicants note that, when the radius of a curve (r_1) is infinite, the curve is a straight line. Accordingly, as discussed in the section of the specification above, although R1 may designate a straight line, this is not inconsistent with the definition of a curve with radius in light of the fact that the radius may be infinite, i.e., "when the 3 points forming a circle are present on a straight line, the radius of the circle is infinite(∞)."³.

³ Published application, paragraph [0053].

Should Examiner Francis deem that any further action is necessary to place this application in even better form for allowance, she is encouraged to contact Applicants' representative at the below-listed telephone number.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, L.L.P.

A handwritten signature in black ink, appearing to read 'Richard L. Chan', is written over a horizontal line.

Richard L. Chan, Ph.D.
Attorney of Record
Registration No. 34,305

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/07)

Lee L. Stepina
Registration No. 56,837